

Function: Cargo handling and stowage at the management level

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes	<p>Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes</p> <p>Knowledge of the effect on trim and stability of cargoes and cargo operations</p> <p>Use of stability and trim diagrams and stress calculating equipment, including automatic data-based (ADB) equipment and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits</p> <p>Stowage and securing of cargoes on board ships, including cargo handling gear and securing and lashing equipment</p> <p>Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing</p> <p>General knowledge of tankers and tanker operations</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training, where appropriate <p>using: stability, trim and stress tables, diagrams and stress calculating equipment.</p>	<p>The frequency and extent of cargo condition monitoring is appropriate to its nature and prevailing conditions.</p> <p>Unacceptable or unforeseen variations in the condition or specification of the cargo is promptly recognized and remedial action is immediately taken and designed to safeguard the safety of the ship and those on board.</p> <p>Cargo operations are planned and executed in accordance with established procedures and legislative requirements</p> <p>Stowage and securing of cargoes ensures that stability and stress conditions remain within safe limits at all times during the voyage</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Carriage of dangerous cargoes	<p>International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the Code of Safe Practice for Solid Bulk Cargoes (BC Code)</p> <p>Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage.</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved simulator training where appropriate 3. approved specialist training 	<p>Planned distribution of cargo is based on reliable information and is in accordance with established guidelines and legislative requirements</p> <p>Information on dangers, hazards and special requirements is recorded in a format suitable for easy reference in the event of an incident</p>

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Function: Controlling the operation of the ship and care for persons on board at the management level

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Control trim, stability and stress	<p>Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability</p> <p>Knowledge of the effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and counter measures to be taken</p> <p>Knowledge of IMO recommendations concerning ship stability</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1 approved in-service experience 2 approved training ship experience 3 approved simulator training, where appropriate 	<p>Stability and stress conditions are maintained within safe limits at all times</p>
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment	<p>Knowledge of international maritime law embodied in international agreements and conventions</p> <p>Regard shall be paid especially to the following subjects:</p> <ol style="list-style-type: none"> 1 certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1 approved in-service experience 2 approved training ship experience 3 approved simulator training, where appropriate 	<p>Procedures for monitoring operations and maintenance comply with legislative requirements</p> <p>Potential non-compliance is promptly and fully identified</p> <p>Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment (continued)	2 responsibilities under the relevant requirements of the International Convention on Load Lines		
	3 responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea		
	4 responsibilities under the International Convention for the Prevention of Pollution from Ships		
	5 maritime declarations of health and the requirements of the International Health Regulations		
	6 responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo		
	7 methods and aids to prevent pollution of the marine environment by ships		
	8 national legislation for implementing international agreements and conventions		

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems	<p>A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)</p> <p>Organization of fire and abandon ship drills</p> <p>Maintenance of operational condition of life-saving, fire-fighting and other safety systems</p> <p>Actions to be taken to protect and safeguard all persons on board in emergencies</p> <p>Actions to limit damage and save the ship following a fire, explosion, collision or grounding</p>	Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience	Procedures for monitoring fire detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures
Develop emergency and damage control plans and handle emergency situations	<p>Preparation of contingency plans for response to emergencies</p> <p>Ship construction, including damage control</p> <p>Methods and aids for fire prevention, detection and extinction</p> <p>Functions and use of life-saving appliances</p>	Examination and assessment of evidence obtained from approved in-service training and experience	Emergency procedures are in accordance with the established plans for emergency situations
Organize and manage the crew	<p>A knowledge of personnel management, organization and training on board ship</p> <p>A knowledge of related international maritime conventions and recommendations, and national legislation</p>	Examination and assessment of evidence obtained from approved in-service training and experience	<p>The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned</p> <p>Training objectives and activities are based on an assessment of current competence and capabilities and operational requirements</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Organize and manage the provision of medical care on board	<p>A thorough knowledge of the use and contents of the following publications:</p> <ol style="list-style-type: none"> 1 International Medical Guide for Ships or equivalent national publications 2 Medical section of the International Code of Signals 3 Medical First Aid Guide for Use in Accidents Involving Dangerous Goods 	Examination and assessment of evidence obtained from approved training	Action taken and procedures followed correctly apply and make full use of advice available.

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Section A-II/3

Mandatory minimum requirements for certification of officers in charge of a navigational watch and of masters on ships of less than 500 gross tonnage, engaged on near-coastal voyages

Officer in charge of a navigational watch

Standard of competence

- 1 Every candidate for certification shall:
 - .1 be required to demonstrate the competence to undertake at operational level, the tasks, duties and responsibilities listed in column 1 of table A-II/3;
 - .2 at least hold an appropriate certificate for performing VHF radiocommunications in accordance with the requirements of the Radio Regulations; and
 - .3 if designated to have primary responsibility for radiocommunications during distress incidents, hold an appropriate certificate issued or recognized under the provisions of the Radio Regulations.
- 2 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/3.
- 3 The level of knowledge of the subjects listed in column 2 of table A-II/3 shall be sufficient to enable the candidate to serve in the capacity of officer in charge of a navigational watch.
- 4 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall be based on section A-VIII/1, part 3-1 - Basic principles to be observed in keeping a navigational watch, and shall also take into account the relevant requirements of this part and the guidance given in part B of this Code.
- 5 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/3.

Special training

- 6 Every candidate for certification as officer in charge of a navigational watch on ships of less than 500 gross tonnage, engaged on near-coastal voyages, who, in accordance with paragraph 4.2.1 of regulation II/3, is required to have completed special training, shall follow an approved programme of on-board training which:

- .1 ensures that during the required period of seagoing service the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch, taking into account the guidance given in section B-II/1 of this Code;
- .2 is closely supervised and monitored by qualified officers on board the ships in which the approved seagoing service is performed; and
- .3 is adequately documented in a training record book or similar document.

Master

7 Every candidate for certification as master on ships of less than 500 gross tonnage, engaged on near coastal voyages, shall meet the requirements for an officer in charge of a navigational watch set out below and, in addition, shall be required to provide evidence of knowledge and ability to carry out all the duties of such a master.

Table A-II/3
Specification of minimum standard of competence for officers in charge of a navigational watch and for masters on ships of less than 500 gross tonnage engaged on near-coastal voyages

Function: Navigation at the operational level			
Column 1	Column 2	Column 3	Column 4
COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Plan and conduct a coastal passage and determine position	<p>Navigation</p> <p>Ability to determine the ship's position by the use of:</p> <ol style="list-style-type: none"> landmarks aids to navigation, including lighthouses, beacons and buoys dead reckoning, taking into account winds, tides, currents and estimated speed 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> approved in-service experience approved training ship experience approved simulator training, where appropriate approved laboratory equipment training <p>using: chart catalogues, charts, navigational publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo sounding equipment, compass</p>	<p>Information obtained from navigational charts and publications is relevant, interpreted correctly and properly applied</p> <p>The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>The position is determined within the limits of acceptable instrument/system errors</p> <p>The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals</p> <p>Calculations and measurements of navigational information are accurate</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Plan and conduct a coastal passage and determine position (continued)	<p>Thorough knowledge of and ability to use navigational charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ships' routing information</p> <p>Reporting in accordance with the Guidelines and Criteria for Ship Reporting Systems</p> <p>Note: This item only required for certification as master</p> <p><i>Navigational aids and equipment</i></p> <p>Ability to operate safely and determine the ship's position by use of all navigational aids and equipment commonly fitted on board the ships concerned</p> <p><i>Compasses</i></p> <p>Knowledge of the errors and corrections of magnetic compasses</p> <p>Ability to determine errors of the compass using terrestrial means, and to allow for such errors</p>	<p>Assessment of evidence obtained from approved radar navigation and ARPA simulator training</p>	<p>Charts and publications selected are the largest scale on board suitable for the area of navigation and charts are corrected in accordance with the latest information available</p> <p>Performance checks and tests of navigation systems comply with manufacturer's recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from radar is in accordance with accepted navigational practice and takes account of the limits and accuracy levels of radar.</p> <p>Errors in magnetic compasses are determined and applied correctly to courses and bearings</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Plan and conduct a coastal passage and determine position (continued)	<i>Automatic pilot</i> Knowledge of automatic pilot systems and procedures, change-over from manual to automatic control and vice-versa; adjustment of controls for optimum performance		Selection of the mode of steering is the most suitable for prevailing weather, sea and traffic conditions and intended manoeuvres
	<i>Meteorology</i> Ability to use and interpret information obtained from shipborne meteorological instruments		Measurements and observations of weather conditions are accurate and appropriate to the passage
	Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems Ability to apply the meteorological information available		Meteorological information is evaluated and applied to maintain the safe passage of the vessel

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Maintain a safe navigational watch	<p><i>Watchkeeping</i></p> <p>Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea</p> <p>Knowledge of content of the Basic Principles to be Observed in Keeping a Navigational Watch</p> <p>Use of routing in accordance with the General Provisions on Ships' Routing</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1 approved in-service experience 2 approved training ship experience 3 approved simulator training, where appropriate 4 approved laboratory equipment training 	<p>The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>A proper lookout is maintained at all times and in conformity with accepted principles and procedures</p> <p>Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea and are correctly recognized</p> <p>The frequency and extent of monitoring of traffic, the ship and the environment conforms with accepted principles and procedures</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Maintain a safe navigational watch (continued)			<p>Action to avoid close encounters and collision with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea.</p> <p>Decisions to adjust course and/or speed are both timely and in accordance with accepted navigation procedures</p> <p>A proper record is maintained of movements and activities relating to the navigation of the ship</p> <p>Responsibility for safe navigation is clearly defined at all times, including periods when the Master is on the bridge and when under pilotage</p>
Respond to emergencies	<p><i>Emergency procedures including:</i></p> <ol style="list-style-type: none"> 1. precautions for the protection and safety of passengers in emergency situations 2. initial assessment of damage and damage control 3. action to be taken following a collision 4. action to be taken following a grounding 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. practical instruction 	<p>The type and scale of the emergency is promptly identified</p> <p>Initial actions and, if appropriate, manoeuvring, are in accordance with contingency plans and are appropriate to the urgency of the situation and the nature of the emergency</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Respond to emergencies (continued)	<p>In addition, the following material should be included for certification as master:</p> <ol style="list-style-type: none"> 1 emergency steering 2 arrangements for towing and for being taken in tow 3 rescuing persons from the sea 4 assisting a vessel in distress 5 appreciation of the action to be taken when emergencies arise in port 		
Respond to a distress signal at sea	<p><i>Search and rescue</i></p> <p>Knowledge of the contents of the IMO Merchant Ship Search and Rescue Manual (MERSAR)</p>	Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate	<p>The distress or emergency signal is immediately recognized</p> <p>Contingency plans and instructions in standing orders are implemented and complied with</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Manoeuvre the ship and operate small ship power plants	<p><i>Ship manoeuvring and handling</i></p> <p>Knowledge of factors affecting safe manoeuvring and handling</p> <p>The operation of small ship power plants and auxiliaries</p> <p>Proper procedures for anchoring and mooring</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p> <p>Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times</p>

Function: Cargo handling and stowage at the operational level

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage	<p><i>Cargo handling, stowage and securing</i></p> <p>Knowledge of safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship</p> <p>Use of the International Maritime Dangerous Goods (IMDG) Code</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 	<p>Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules/regulations, equipment operating instructions and shipboard stowage limitations</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognized standards and codes of safe practice</p>

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Function: Controlling the operation of the ship and care for persons on board at the operational level

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Ensure compliance with pollution prevention requirements	<p><i>Prevention of pollution of the marine environment and anti-pollution procedures</i></p> <p>Knowledge of the precautions to be taken to prevent pollution of the marine environment and anti-pollution procedures</p> <p>Anti-pollution procedures and all associated equipment</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 	<p>Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p>
Maintain seaworthiness of the ship	<p><i>Ship stability</i></p> <p>Working knowledge and application of stability, trim and stress tables, and diagrams and stress calculating equipment</p> <p>Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy</p> <p>Understanding of the fundamentals of watertight integrity</p> <p><i>Ship construction</i></p> <p>General knowledge of the principal structural members of a ship and the proper names for the various parts</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> 1. approved in-service experience 2. approved training ship experience 3. approved simulator training, where appropriate 4. approved laboratory equipment training 	<p>Stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Prevent, control and fight fires on board	<p><i>Fire prevention and fire-fighting appliances</i></p> <p>Knowledge of fire prevention</p> <p>Ability to organize fire drills</p> <p>Knowledge of classes and chemistry of fire</p> <p>Knowledge of fire-fighting systems</p> <p>Understanding of action to be taken in the event of fire, including fires involving oil systems</p>	<p>Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3</p>	<p>The type and scale of the problem is promptly identified and initial actions conform with the emergency procedures and contingency plans for the ship</p> <p>Evacuation, emergency shut down and isolation procedures are appropriate to the nature of the emergency and are implemented promptly.</p> <p>The order of priority, and the levels and time scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p>
Operate life-saving appliances	<p><i>Life-saving</i></p> <p>Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment including radio life-saving appliances, satellite EPRBs, SARTs, immersion suits and thermal protective aids.</p> <p>Knowledge of survival at sea techniques</p>	<p>Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4</p>	<p>Actions in responding to abandon ship, and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards</p>

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COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Apply medical first aid on board ship	<i>Medical aid</i> Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship	Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 1 to 3	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

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